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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,686	10/24/2003	Tamotsu Yoshida	121036-0064	8677
35684	7590	12/22/2005	EXAMINER	
BUTZEL LONG 350 SOUTH MAIN STREET SUITE 300 ANN ARBOR, MI 48104			POULOS, SANDRA K	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,686

Applicant(s)

YOSHIDA ET AL.

Examiner

Sandra K. Poulos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 & 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/24/03; 11/24/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-9 and 13-15 (group I) in the reply filed on November 30, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The requirement is therefore made **FINAL**.

Specification

2. The abstract of the disclosure is objected to because of the legal phraseology "comprising." Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:

a. A comma beginning the sentence on page 5, line 10.

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- b. "the" on page 5, line 22, is the beginning of a sentence but is not capitalized.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the vulcanized product" in line 2. There is insufficient antecedent basis for this limitation in the claim. Examiner has assumed "the vulcanized product" is the product formed from the vulcanization of the acrylic elastomer composition.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (US 3,919,143) in view of Kobayashi et al (EP 811659) and Yagishita et al (US 4,931,509).

The decision made by the Board of Patent Appeals and Interferences on the appeal (appeal no. 2002-0725) to reject the claims in application no. 09/277,590 is incorporated herein by reference.

Morris '143 discloses vulcanizable compositions containing halogen bearing elastomeric polymers. Additionally, the compositions comprise a cure system consisting essentially of (a) di-or polyfunctional carboxylic acid, (b) a quaternary ammonium salt or a monofunctional secondary or tertiary amine, and (c) a halide ion acceptor (abstract). Carboxylic acid is used at 0.1-10 parts by weight and quaternary ammonium salt at 0.1-

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10 parts by weight polymer (col 5, lines 9-26). Other ingredients such as fillers, extenders, oils, pigments, etc. can be added to the composition (col 10, lines 30-48). Di or polycarboxylic acids are disclosed in column 5, lines 27-57. The quaternary ammonium salt is disclosed in column 5, line 58 to column 6, line 41. Halide ion acceptors are disclosed in column 8, line 21 to column 9, line 39. Hydrotalcite is a mixed salt containing magnesium, aluminum, hydroxide, and carbonate ions, each of which are disclosed by Morris '143 as being present in a halide ion acceptor (col 8-9).

Morris '143 does not specifically disclose hydrotalcite and urea.

Kobayashi '659 discloses an acrylic rubber composition comprising (1) a halogen containing acrylic rubber and (2) hydrotalcite (abstract). Hydrotalcite is used at 0.5-5 parts by weight per 100 parts by weight of acrylic polymer (page 6, lines 35-40).

Yagishita '509 discloses a curable acrylate-type elastomer composition comprising an epoxy group-containing acrylate type elastomer and urea (abstract). Urea is added at 0.1-10 parts by weight, and is used to regulate vulcanization (col 4, lines 55-66).

It would have been obvious to one of ordinary skill in the art to add hydrotalcite (of Kobayashi '659) to prevent metal corrosion during crosslinking and add urea (of Yagishita '509) in order to regulate the rate of vulcanization and thus arrive at the instantly claimed invention.

7. Claims 1-9 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (US 3,919,143) in view of Yagishita et al (US 4,931,509) and Tomoshige et al (JP 07-278426), wherein a machine translation from the JPO is cited hereafter.

Morris '143 discloses vulcanizable compositions containing halogen bearing elastomeric polymers. Additionally, the compositions comprise a cure system consisting essentially of (a) di-or polyfunctional carboxylic acid, (b) a quaternary ammonium salt or a monofunctional secondary or tertiary amine, and (c) a halide ion acceptor (abstract). Carboxylic acid is used at 0.1-10 parts by weight and quaternary ammonium salt at 0.1-10 parts by weight polymer (col 5, lines 9-26). Other ingredients such as fillers, extenders, oils, pigments, etc. can be added to the composition (col 10, lines 30-48). Di or polycarboxylic acids are disclosed in column 5, lines 27-57. The quaternary ammonium salt is disclosed in column 5, line 58 to column 6, line 41. Halide ion acceptors are disclosed in column 8, line 21 to column 9, line 39. Hydrotalcite is a mixed salt containing magnesium, aluminum, hydroxide, and carbonate ions, each of which are disclosed by Morris '143 as being present in a halide ion acceptor (col 8-9).

Morris '143 does not specifically disclose the formula of the hydrotalcite, urea, or the compression set characteristic.

Yagishita '509 discloses a curable acrylate-type elastomer composition comprising an epoxy group-containing acrylate type elastomer and urea (abstract). Urea is added at 0.1-10 parts by weight, and is used to regulate vulcanization (col 4, lines 55-66).

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Tomoshige '426 discloses an acrylic rubber composition comprising (1) a halogen containing acrylic rubber and (2) 0.1-20 pts wt hydrotalcite (abstract; paragraph 9-11). Vulcanization accelerators such as quaternary ammonium salts are disclosed (paragraph 17). The hydrotalcites are further specified in paragraph 13 wherein it is disclosed as of the formula $\text{Mg}_{4.5}\text{Al}_2(\text{OH})_{13}\text{CO}_3 \cdot 3.5\text{H}_2\text{O}$. The preferable quantity of hydrotalcite is 1-10 pts wt in order to achieve a good vulcanization rate while maintaining good preservation stability (paragraph 14).

The vulcanized composition resulting from the combination of Morris '143 in view of Yagishita '509 and Tomoshige '426 would intrinsically have a compression set characteristic measured at 150°C for 70 hours which is about 30% or less because both the present composition and the composition resulting from the combined references have the same components and therefore would share the same physical properties.

It would have been obvious to one of ordinary skill in the art to add hydrotalcite (of Tomoshige '426) to achieve a good vulcanization rate while maintaining good preservation stability and add urea (of Yagishita '509) in order to further regulate the rate of vulcanization and thus arrive at the instantly claimed invention.

Response to Arguments

8. Applicant's arguments filed November 24, 2003 have been fully considered but they are not persuasive. The arguments were in the form of a letter to the EPO which argued against the combination of US 3,919,143, JP-A-8-157679, and EP 0 811659.

The decision made by the Board of Patent Appeals and Interferences on the appeal (appeal no. 2002-0725) for application no. 09/277,590 is incorporated herein by reference (mail date August 25, 2003). Application no. 09/277,590 is the abandoned case from which the instant case is a continuation. Claims 1-9 of the instant case are essentially the same as claims 1-9 of application no. 09/277,590.

It appears that applicant's arguments are cumulative of the record and have been responded to by the Board of Patent Appeals.

Applicant's arguments with respect to JP 08-157679 (in arguments 3.2-3.4) have been considered but are moot because the reference has not been used in this Office action rejection.

In response to arguments 2.1-2.3 refer to pages 3-10 of the Board decision.

In response to argument 3.1, applicant is arguing the intent of the patentee rather than what has been disclosed. Further, see pages 4-5 of the Board decision wherein the Board has affirmed that hydrotalcites are halogen ion acceptors and fall within the scope of Morris '143. Nonetheless, Kobayashi is additionally used to teach the use of hydrotalcite.

In argument 3.5 applicant's arguments with respect to the cure system have been considered but are moot because the currently elected claims are drawn to an elastomer composition and not to a vulcanized product or a method of curing. Furthermore, see pages 3-10 for the motivation in combining the references Morris '143 and Kobayashi '659.

The argument 3.6 is not persuasive because no experimental data was given. Further, applicant's arguments with respect to the cure system are moot because the currently elected claims are drawn to an elastomer composition and not to a vulcanized product or a method of curing.

Therefore, the combination of Morris '143 in view of Kobayashi '659 and Yagishita '509 still stands against claims 1-9 and 14.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Sandra K. Poulos

12/15/2005



VASU JAGANNATHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700